

Automatic equipment for recovery, vacuum and refilling of air conditioning systems

**MODEL: AT41502
SERVICE MANUAL**



Diavia

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1 SERVICE MANUAL

1.1 SERVICE MENU ACCESS PROCEDURE

WARNING: PERFORM THIS PROCEDURE ONLY AFTER HAVING READ THE FOLLOWING INSTRUCTIONS CAREFULLY. IF NOT PERFORMED PROPERLY, THIS PROCEDURE CAN CAUSE MALFUNCTIONING AND DAMAGE THE UNIT.

Connect the power supply to the unit.

Proceed as follows when the display shows the net weight available (Stand-by mode):

Press the **UP** Key and hold down.

Press the **START/STOP** Key and hold down.

Release the **UP** Key.

Press the **DOWN** Key and hold down.

Release the **START/STOP** Key.

Release the **DOWN** Key.

The display shows **0000**.

Use the **UP-DOWN** Keys to access the following menus:

- | | |
|------------|---|
| 1 | Refrigerant weighing scales calibration |
| 6 | Calibration (reset) maintenance counter for pump/filter oil replacement |
| 883 | Historical maintenance counters |
| 567 | Operation parameters settings |
| 32 | Hoses length adapter parameter |

Set the desired menu.

Use the **START/STOP** Key to confirm.

See the chapters on the individual menus.

1.2 REFRIGERANT WEIGHING SCALES CALIBRATION

Required equipment:

- 1 Cross-head screwdriver PH 2
- 1 Hexagonal spanner 10 mm
- 1 Sample weight min. 10 kg

Remove the M6 screw that fastens the container **(34)** to the weighing scales pan **(18)**. Remove the container **(34)**.

Set menu **1** (see Section 1.1), confirm with the **START/STOP** Key.

The display shows **to FL**.

With the weighing scales pan **(18)** completely empty, press the **START/STOP** Key.

The display shows **if FL**.

Place the sample weight on the weighing scales pan **(18)**, for example 10 kg.

Confirm with the **START/STOP** Key.

The display shows the theoretical weight read by the weighing scales.

Use the **UP-DOWN** Keys to set the sample weight value.

Confirm with the **START/STOP** Key.

The display shows **-End-**.

Press the **START/STOP** Key to exit.

The display shows the Stand-by mode.



If the calibration procedure is unsuccessful or the display shows the message **Err**, enter the default parameters again. Afterwards, calibrate the refrigerant weighing scales once again.

1.3 RESET MAINTENANCE COUNTER TO REPLACE PUMP OIL/FILTER

Set menu **6** (see Section 1.1), confirm with the **START/STOP** Key.

The display shows **cnt P**.

Press the **START/STOP** Key.

The display shows the work time (max. time 3,600 minutes).

Press the **F** Key and hold down.

The display shows **cont – rESEt** alternately.

When the display shows **0**, release the **F** Key.

Press the **START/STOP** Key to exit.

The display shows the Stand by mode.

1.4 HISTORICAL MAINTENANCE COUNTERS

Set the menu **883** (see Section 1.1), confirm with the **START/STOP** Key.

Display shows **tot F**.

Press the **START/STOP** Key.

Confirm with the **START/STOP** Key.

The display shows **tot P**.

Confirm with the **START/STOP** Key.

The display shows the general work time of the vacuum pump (the time is expressed in minutes).

Confirm with the **START/STOP** Key.

The display shows **-End-**.

Press the **START/STOP** Key to exit.

The display shows the Stand by mode.

1.5 OPERATION PARAMETERS SETTINGS

Set the menu **567** (see Section 1.1), confirm with the **START/STOP** Key.

By repeatedly pressing the **F** Key it is possible to select the following operation parameters in sequence:

1.04 SOFTWARE VERSION	
PARAMETER	DEFAULT VALUE
P t00	30
P t01	30
P t02	20
P t03	5
P t04	90
P t05	60
P t06	1
P t07	3
P t08	90
P t09	5
P t10	10
P t11	3
P t12	20
P t13	10
P t14	10
P t15	60
TARE	9.000
PDEF C	700
OSPL	0
PM R	10.000
PMABS	19.000
P UDH	4.000
P UDL	750
UD1	240
P UD2	400
P UD3	100
P UD4	1100
TDEFP	1
TDEFV	30
TDEFL	4
T CLN	90
ALFILT	150.000
ALPUM	3.600
ALPMG	3.000
TREFD	3

Select the desired value with the **F** Key and confirm with the **START/STOP** Key.

Use **UP-DOWN** Keys to set the value shown in the table.

Confirm with the **START/STOP** Key.

Select the parameter **-End-** and confirm with the **START/STOP** Key to exit.

The display shows the available net weight value (Stand by).

UNIT AT41502

See also “entering default parameters”.



If the logic board is replaced, calibrate the weighing scales.

1.6 HOSES LENGTH ADAPTER PARAMETER

Set the menu **32** (see Section 1.1), confirm with the **START/STOP** Key.

The display shows **110**.

Increase the default parameter shown by 25 gr. for each metre of additional hose with respect to the standard hose.

Confirm with the **START/STOP** Key.

The display shows the Stand by mode.

2 ENTERING DEFAULT PARAMETERS

Switch off the Unit.

Press down the **UP-DOWN** Keys simultaneously and hold down; switch on the Unit.
The display shows **P DEF.**

Hold down the **F** Key; when the display stops flashing, release the **F** Key.

Repeatedly press the **F** Key until the display shows **END** and confirm with the **START/STOP** Key.

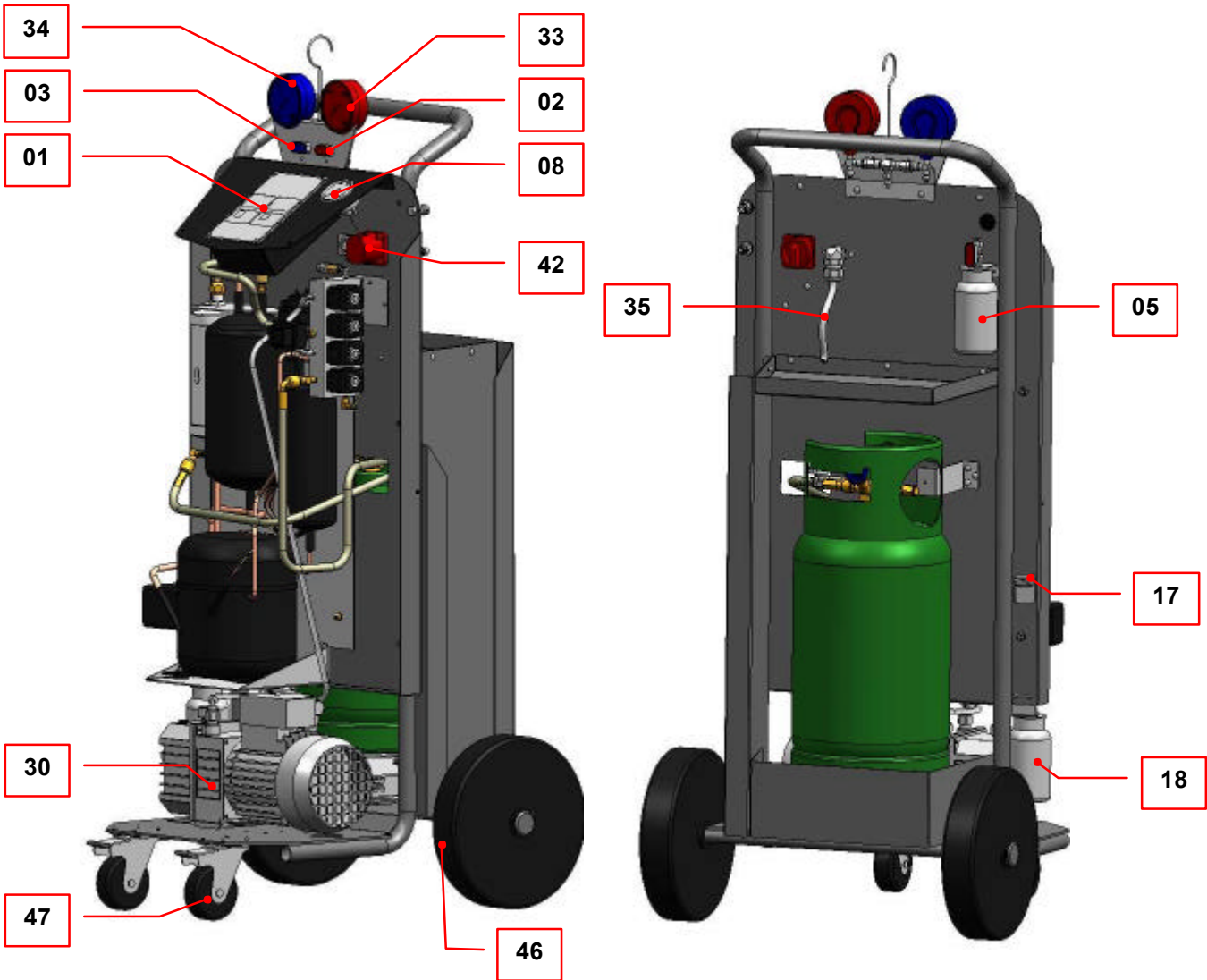
The display shows the Stand by mode.



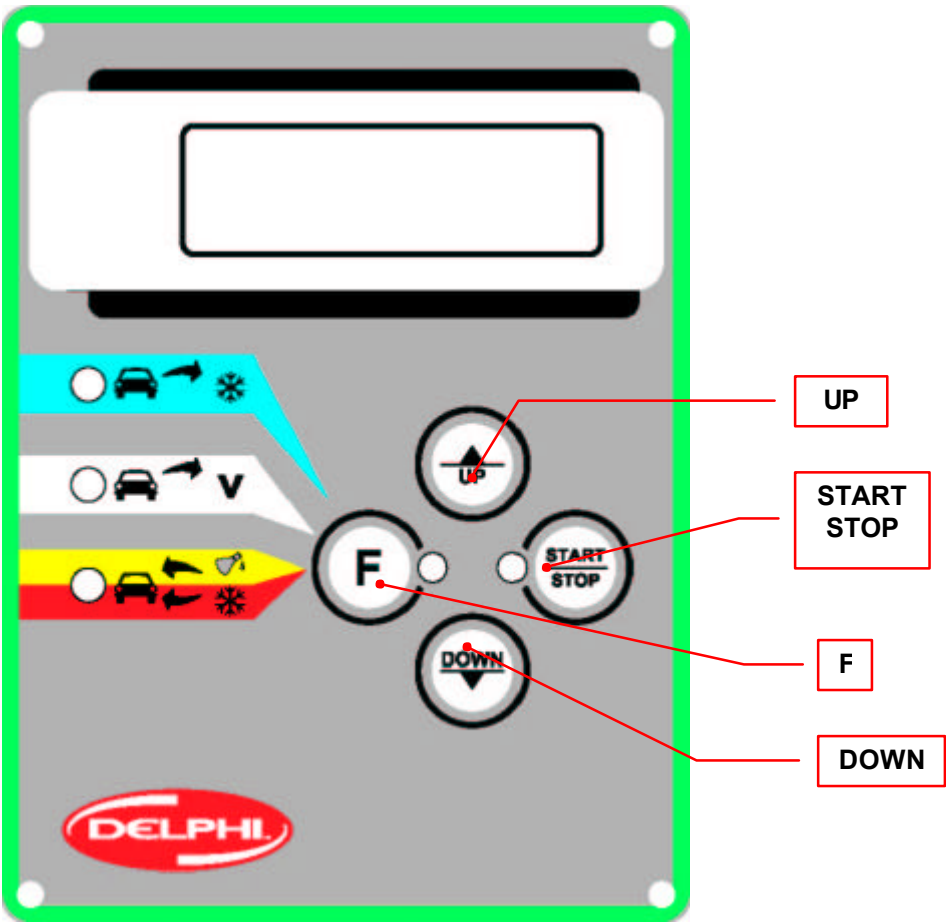
Afterwards, calibrate the refrigerant weighing scales once again.

3 VIEW OF COMPONENTS

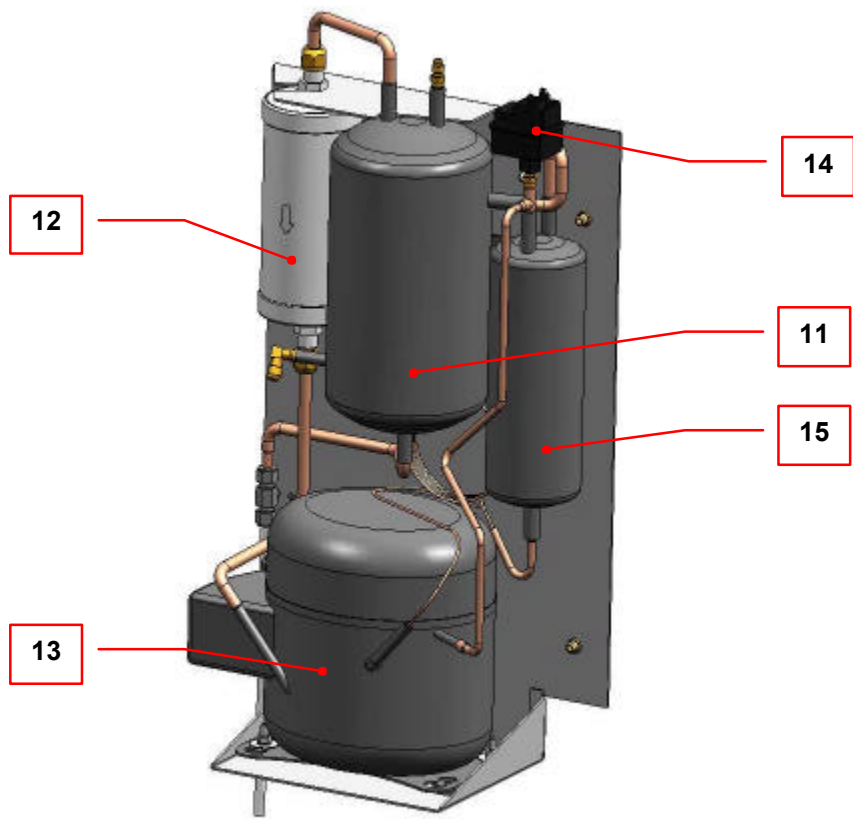
3.1 GENERAL VIEW



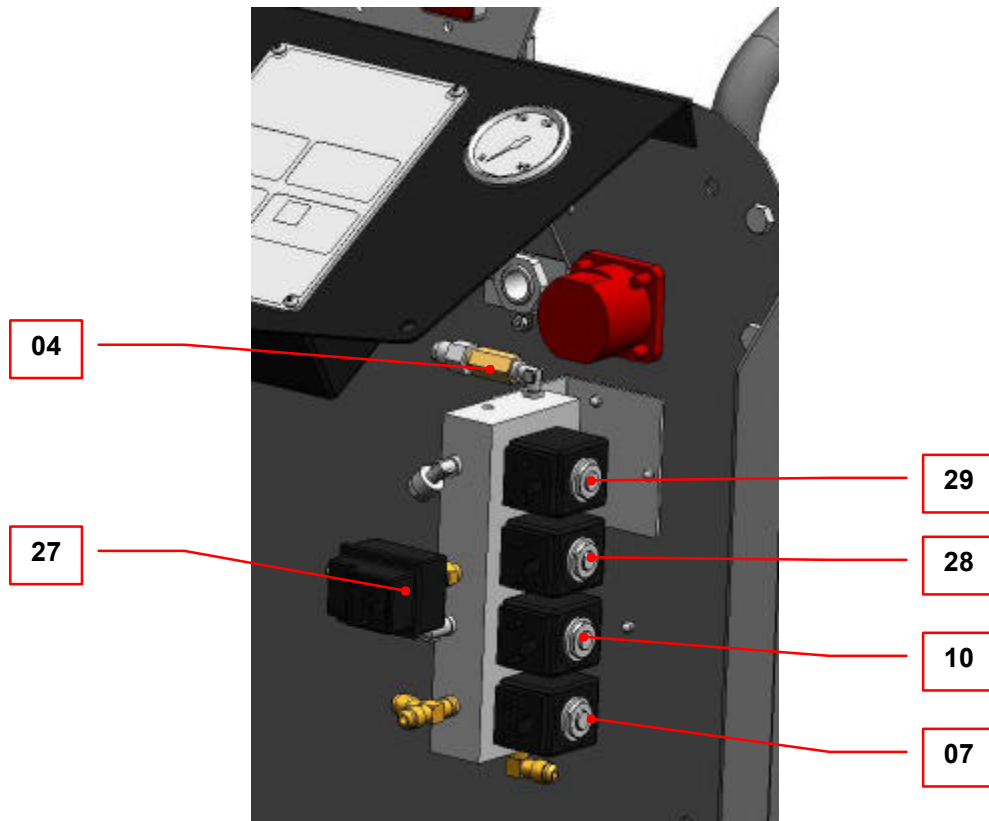
3.2 CONTROL PANEL



3.3 SUCTION UNIT

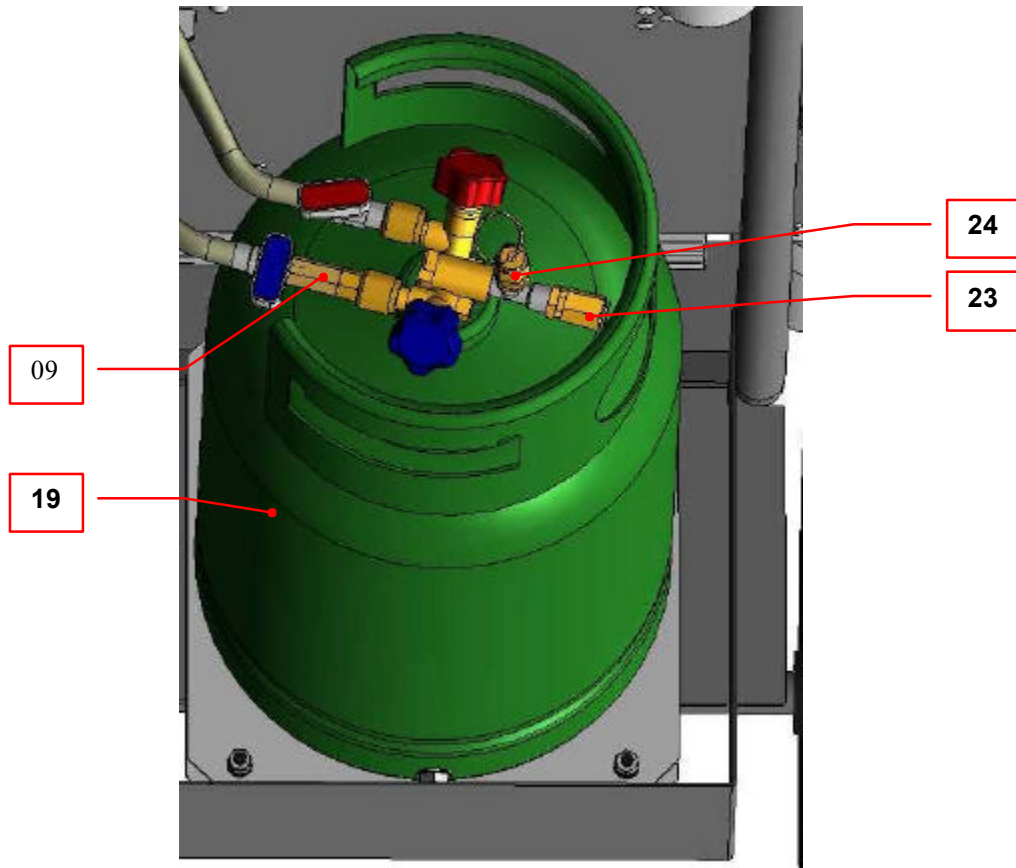


3.4 VALVE UNIT

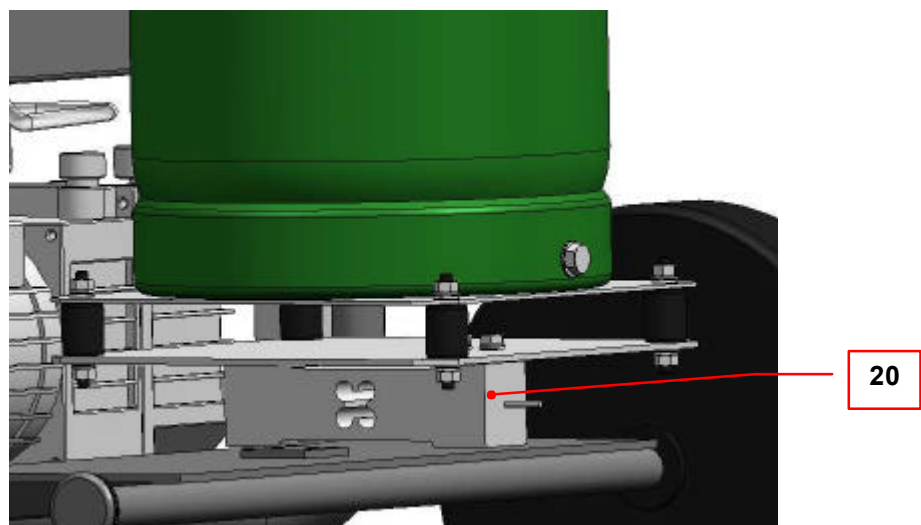


POS	NAME	DESCRIPTION
27	-	PRESSURE SWITCH LP
04	-	OIL INJECTION CHECK VALVE
29	PUMP	SOLENOID VALVE ø 4.5 mm
28	PUMP	SOLENOID VALVE ø 4.5 mm
10	LOAD	SOLENOID VALVE ø 2.5 mm
07	COMP	SOLENOID VALVE ø 2.5 mm

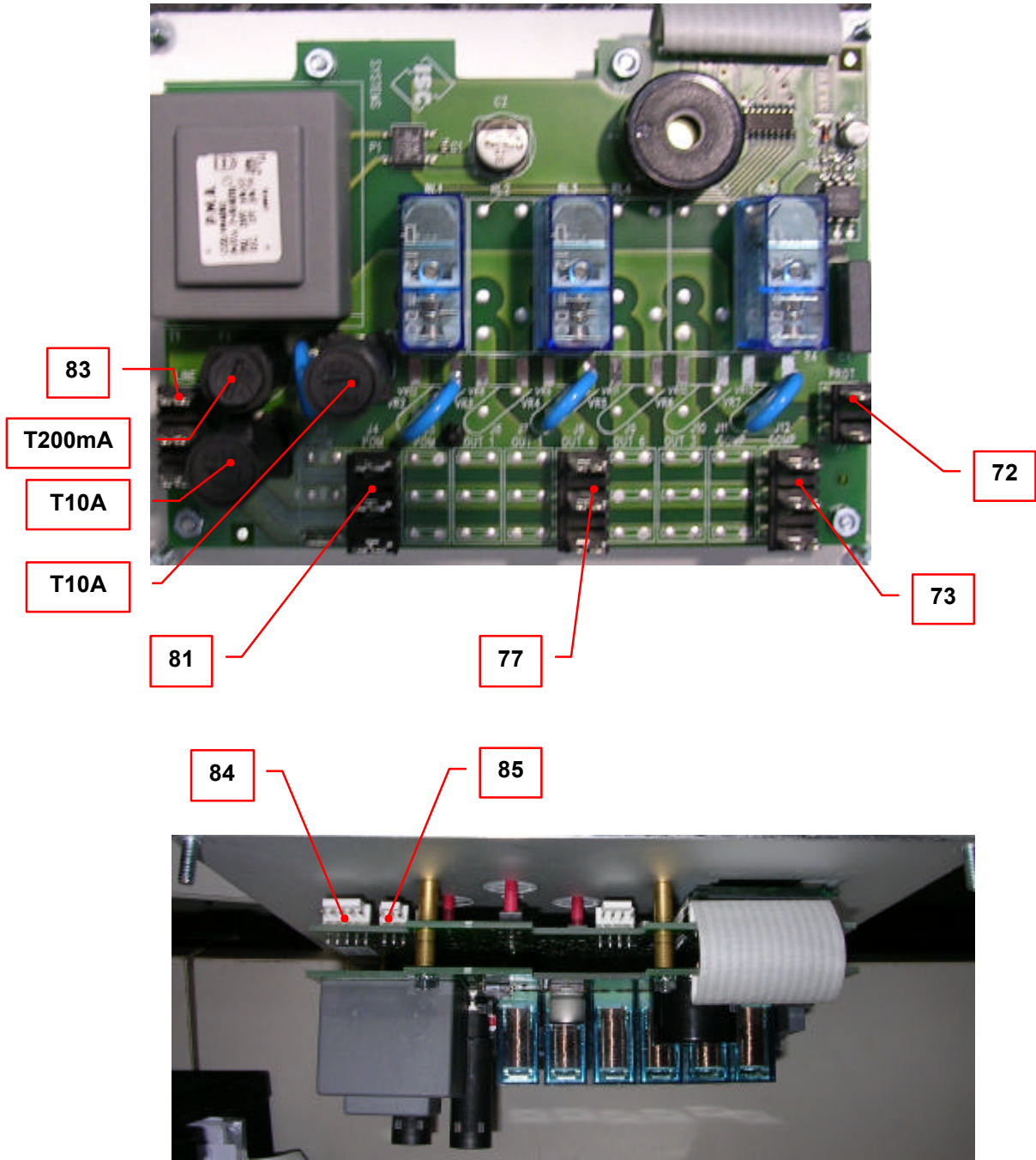
3.5 REFRIGERANT CONTAINER SAFETY VALVE



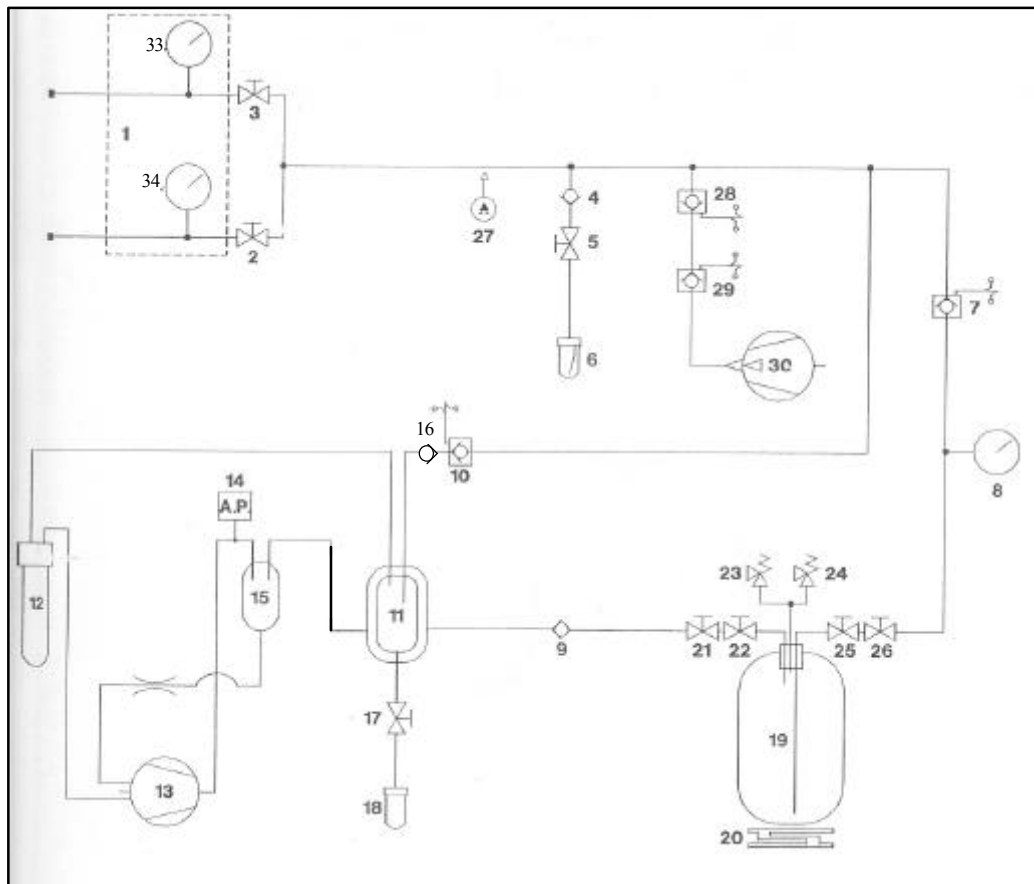
3.6 WEIGHING SCALES



3.7 LOGIC/POWER BOARD



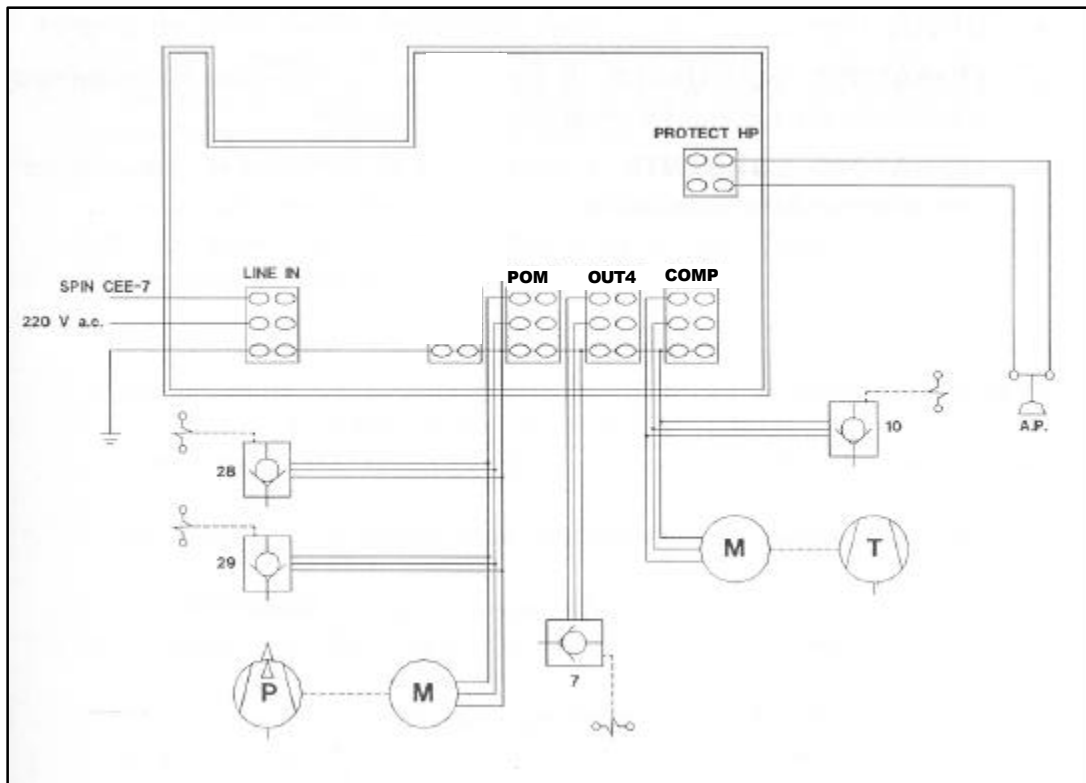
4 FLOW DIAGRAM



4.1 TABLE OF COMPONENTS

POS.	DESCRIPTION	POS.	DESCRIPTION
1	LOGIC BOARD AT41502/AT41501	18	OIL DRAIN CONTAINER
2	HP VALVE	19	REFRIGERANT CONTAINER
3	LP VALVE	20	REFRIGERANT WEIGHING SCALES
4	CHECK VALVE	23	INCONDENSABLES DRAIN VALVE
5	OIL INJECTION VALVE	24	SAFETY VALVE
6	OIL INJECTION CONTAINER	27	LP PRESSURE SWITCH
7	LOAD SOLENOID VALVE	28	VACUUM SOLENOID VALVE
8	GAS BOTTLE PRESSURE GAUGE	29	VACUUM SOLENOID VALVE
9	CHECK VALVE	30	VACUUM PUMP
10	RECOVERY SOLENOID VALVE	31	HP QUICK COUPLING
11	DISTILLER	32	LP QUICK COUPLING
12	DEHYDRATOR FILTER	33	HP PRESSURE GAUGE
13	COMPRESSOR	34	LP PRESSURE GAUGE
14	HP PRESSURE SWITCH	35	POWER SUPPLY CABLE
15	OIL SEPARATOR	42	SWITCH
16	CHECK VALVE	46	REAR WHEEL
17	OIL DRAIN VALVE	47	FRONT WHEEL

4.2 ELECTRIC DIAGRAM



4.3 TABLE OF CONNECTIONS

SECT.	POS.	NAME	PIN No.	DESCRIPTION	DESTINATION
SOL. VALVE MANIFOLD					
3.4	29		-	VACUUM SOLENOID VALVE	-
3.4	28		-	VACUUM SOLENOID VALVE	-
3.4	10		-	RECOVERY/RECYCLING SOLENOID VALVE	
3.4	07		-	LOADING SOLENOID VALVE	
POWER BOARD					
3.7	72	PROT	2	HP PRESSURE SWITCH	HP PRESSURE SWITCH 14
3.7	73	COMP	3	COMPRESSOR	COMPRESSOR (13)
3.7	77	OUT 4	3	LOADING SOLENOID VALVE OUT R	SOLENOID VALVE (07)
3.7	81	POM	3	VACUUM PUMP/ VACUUM SOLENOID	VACUUM PUMP (30) SOL. VALVE VACUUM 28-29
3.7	83	LINE IN	3	POWER CABLE SWITCH	SWITCH (42)
LOGIC BOARD					
3.8	84	-	5	REFRIGERANT LOAD CELL	REFRIGERANT LOAD CELL (18)
3.8	85	-	3	LP PRESSURE SWITCH	LPPRESSURE SWITCH 14